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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TOMOHIRO NISHI and MICHIHIRO OHNISHI

Appeal 2009-000859
Application 10/085,659
Technology Center 2600

Decided: December 23, 2009

Before JOHN A. JEFFERY, CARLA M. KRIVAK,
and ELENI MANTIS MERCADER, *Administrative Patent Judges*.

MANTIS MERCADER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134(a) of the Examiner's non-final rejection of claims 1-23. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

INVENTION

Appellants' claimed invention is directed to preventing unauthorized image capturing of the displayed image by hampering watching the recorded image (Spec. 1: 10-15). The use of temporal modulation creates hampering noise, which is an optical state variation independent from an original display image, that becomes visible when the recorded image is watched and becomes invisible or almost invisible when the displayed image is directly watched. (Spec. 2:16-26).

Claim 1, reproduced below, is representative of the subject matter on appeal:

1. An optical state modulation method comprising:

periodically modulating luminance of an original display image in temporal domain to generate an optical state variation on a recorded image that is obtained by image-capturing of the modulated display image,

said optical state variation being independent of said original display image and without generating a hampering effect when said displayed image is directly watched,

utilizing a rotation filter, including a rotate-able filter part having a sinusoidal density variation along its circumferential direction, in said luminance modulation.

THE REJECTION

The Examiner relies upon the following as evidence of unpatentability:

Schumann	US 6,950,532 B1	Sep. 27, 2005 (filed April 24, 2001)
Yamaguchi	US 2005/0035314 A1	Feb. 17, 2005 (filed Feb. 17, 2004)
Burstyn	WO 01/33846 A2	May 10, 2001

G. Frankowski et al., *Real-time 3D Shape Measurement with Digital Stripe Projection by Texas Instruments Micromirror Devices DMD™*, Proc. SPIE, vol. 3958, pp. 90-105 (2000).

The following rejection is before us for review:

The Examiner rejected claims 1-23 under 35 U.S.C. § 103(a) as being unpatentable over Burstyn in view of Frankowski and further in view of Schumann.

Appellants argue rejected claims 1-9 together as a group, with claim 1 as representative. *See* App. Br. 13-15. Accordingly, claims 2-9 stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUE

Appellants assert that Frankowski uses a projector rather than a filter to modulate light intensity (App. Br. 14). Furthermore, Appellants assert that Frankowski's sinusoidal waveform is in a strip pattern (App. Br. 14). Appellants argue that this is different from Appellants' claimed invention which utilizes a

rotation filter including a rotate-able filter part having a sinusoidal density variation along its circumferential direction (App. Br. 14).

Thus, Appellants' arguments present us with the following pivotal issue:

Have Appellants shown that the Examiner erred in finding that Frankowski teaches "a rotation filter, including a rotate-able [sic] filter part having a sinusoidal density variation along its circumferential direction" as recited in claim 1?

FINDINGS OF FACT

The following findings of fact (FF) are supported by a preponderance of the evidence:

1. Appellants' Specification describes a rotation filter placed in front of a projector type display apparatus, such as a projector, so that the transmitted light is rotated with a sinusoidal density variation along its circumferential direction (Spec. 8:13-18; Spec. 27:1-13).
2. Frankowski teaches the use of a Digital stripe projection (i.e., having Digital Micromirror Devices (DMD)) (pg. 93; section 2.3.1) wherein a colour wheel (i.e., filter) is rotating in front of a DLP-projector (pg. 97: ¶ [5]).
3. Yamaguchi explains Frankowski's invention as a system that creates "a stripe pattern whose luminance changes continuously in the form of a sinusoidal waveform" projected with high accuracy by means of the DMD (¶ [0084]).

PRINCIPLES OF LAW

The Examiner bears the initial burden of presenting a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). If that burden is met, then the burden shifts to the Appellant to overcome the prima facie case with argument and/or evidence. *Id.*

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position. *In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006).

ANALYSIS

Regarding the rejection of claims 1-9

Appellants' Specification describes a rotation filter placed in front of a projector type display apparatus, such as a projector, so that the transmitted light is rotated with a sinusoidal density variation along its circumferential direction (FF 1).

We agree with the Examiner's findings (Ans. 6) that Frankowski, similar to Appellants' disclosure, teaches the use of a Digital stripe projection (i.e., having Digital Micromirror Devices (DMD)) wherein a colour wheel (i.e., filter) is rotating in front of a DLP-projector (FF 2). Furthermore, the Examiner used Yamaguchi as further evidence which explains Frankowski's invention as a system that creates "a stripe pattern whose luminance changes continuously in the form of a sinusoidal waveform" projected with high accuracy by means of the DMD (FF 3).

Accordingly, we agree with the Examiner that Frankowski teaches a rotation filter, including a rotatable filter part (i.e., colour wheel) having a sinusoidal

density variation along its circumferential direction (i.e., a stripe pattern whose luminance changes continuously in the form of a sinusoidal waveform as the colour wheel rotates in a circumferential direction). Thus, we are not persuaded by Appellants' argument (App. Br. 14) that Frankowski uses a projector rather than a filter to modulate light intensity. We are also not persuaded by Appellants' argument (App. Br. 14) that Frankowski's sinusoidal waveform is only in a strip pattern rather than having a sinusoidal density variation along its circumferential direction.

For the foregoing reasons, we sustain the Examiner's rejections of claims 1-9.

Regarding the rejection of claims 10-23

While Appellants separately argue claims 10-23, they repeat the same arguments as articulated *supra* with respect to claim 1 (App. Br. 14-15).

Once the Examiner has satisfied the burden of presenting a prima facie case of obviousness, the burden then shifts to Appellants to present evidence and/or arguments that persuasively rebut the Examiner's prima facie case. *See Oetiker*, 977 F.2d at 1445.

Since Appellants did not particularly point out errors in the Examiner's reasoning to persuasively rebut the Examiner's prima facie case of obviousness, the rejections are therefore sustained for the same reasons as those articulated above with respect to claim 1.

CONCLUSION

Under 35 U.S.C. § 103, Appellants have not shown that the Examiner erred in finding that Frankowski teaches "a rotation filter, including a rotate-able [sic] filter part having a sinusoidal density variation along its circumferential direction."

ORDER

The decision of the Examiner to reject claims 1-23 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

ELD

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